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THE NATIONAL MAGAZINE OF RURAL ELECTRIFICATION

Put Your Electric Refrigerator On War Duty Too!

NOWADAYS your refrigerator should be playing a more important part than ever in "the care and feeding of your family." Put it on war duty and save extra pennies for Defense Stamps; conserve more of your time for "extra duty" jobs; and protect more carefully the food vitamins so vital to your family's health.

By using your refrigerator storage space only for foods that require refrigeration, and by following the G-E Food Storage Chart you get better preservation and more useable space.

Keep your refrigerator in good working order for 5 of the 6 foods essential to healthful daily diet require refrigeration—and there are, of course, not many new refrigerators available. We hope you have a General Electric for we know the G-E is built to last and to use but little current.

GENERAL ELECTRIC

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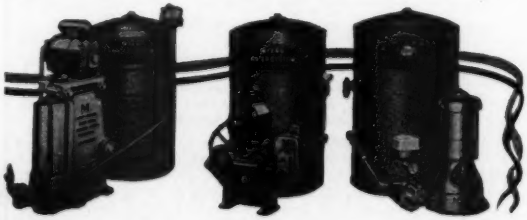

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Editor's Chat

Our Fight

America has never lost a war. Our history books preach it. Our newspapers recite it. Our oceans have given us a feeling of security. We have been told repeatedly that in the end our great resources will enable us to win. But each day our enemies are acquiring counteracting resources and we are being more severely rationed and restricted. The enemy knows all this. It is high time that we stop kidding ourselves about our infallibility and face the facts. So long as we as citizens keep the "covers pulled over our heads," the enemy can operate with greater assurance.

Belittling our enemies and hating them will not win this war. Do we need any further demonstrations that they are smart and capable, if unscrupulous, diplomats and fighters? They have been training for war in the "all-out" methods of warfare (and "war is hell"), while we have been basking in the satisfaction of peace and magnanimity. Repeatedly, the Allies have been taken by surprise—caught off guard and dealt telling blows. Our enemies do not lack courage. They crash-bomb ships, take their war vessels through the Straits of Dover, and commit harakiri when their leadership has been unsuccessful. It is serious life-and-death business with them. It must be serious business with us!

Our enemies are united. People everywhere follow strong leadership—good or bad. That following may be under compulsion or discipline, or long training for obedience to the State. Again, we should not kid ourselves. The people in the enemy countries are following and obeying their leaders, and "liking it" because they are trained to. Are we?

We are now paying the penalty of a peace-loving people for lack of preparation, discipline and organization. Don't look for someone to blame. It is you and me. We run this nation, and we wanted it that way. While I suffer inwardly from the chagrin of successive defeats of our side, I know full well that there are trained men, much more capable of planning and directing this war than I am. I must have confidence in them. I know also that a bank clerk cannot win a mile run until he is trained and has proper shoes and clothes. In the meantime the other fellow will hold the record.

I have faith in my fellow Americans—more faith in you than in some of our procedures. I do not believe that this is the time to make a worker pay for the privilege of working in a war plant. I do not think a willing worker should be restrained from tightening a nut that needs tightening just because he does not belong to the nut-tightener's union. I do not believe in taking advantage of a serious situation to grab high wages and time-and-a-half for overtime. What's more, I do not believe that workmen generally favor these defeating practices. I doubt also if anything like a majority of farmers honestly sanction the pressure politics which is being played with farm prices. If the real truth were known, most of these maneuvers are being made by politicians and leaders for personal gain or votes.

The thing which sickens an American citizen who loves his country and freedom, is not the yielding of a touchdown to the enemy in the first quarter, but the disorganization of the team due to the selfishness of groups in the squad, and the swiping of the gate receipts to throw a party for the "select." It hurts to pay the increased taxes this year, but there has been little complaint, because we are all "in the same boat." We can take a lot more "in the same boat" treatment.

Any leader whose stock-in-trade is grabbing appropriations for you or getting an advantage for you over some other group, regardless of its effect on the nation, is a self-seeker and a dangerous person to trust in these times. We need leaders, not to feed us pap, but who have courage to seek the truth and tell us when we are wrong.

There is a contest between Democracy and Dictatorship. If we cannot demonstrate the superiority of democracy now, we will be goose-stepping to foreign music and forced to smile.

The war is still in its early stages. We need courage to submerge selfishness and demand strong leadership. Self-deception in our thinking must stop. We must face the facts if we are to win.

—And for you and me in our own back yards: Keep equipment in repair. Produce the crops required. Sell all scrap metals now; the nation needs them. Buy defense bonds. And remember that you and I are the Government, and the shapers of public opinion, with the ability to jointly furnish "the spark" to win this war.

George Kable

ELECTRICITY ON THE FARM
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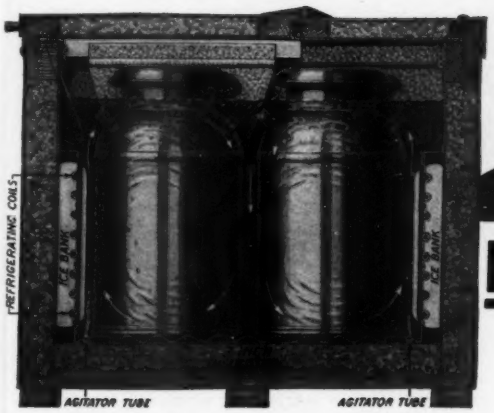
A CUP OF WATER
Starts a Million Bubbles on the Rampage!



PNEUMATIC AGITATION DOES IT...

Only International Has It

ACTION is what you want when warm cans of milk need cooling. And *action is what you get* when an International Milk Cooler is on the job. With this famous outfit, quick and uniform cooling is always available . . . whenever you say the word.

Pneumatic Agitation does it . . . and *only International has it!* This exclusive pneumatic water agitator is, in reality, a water-sealed rotary air pump. It is simple in design, with only one moving part. It is put to work by pouring a cup of water in the filler hole, sealing the rotor. Water in the box bubbles vigorously and circulates around the cans and *over built-up ice banks* which line the cooler walls. Agitation over ice in this manner, makes it possible to cool milk *from body heat to 50 degrees or less,* within an hour! After a little more than one hour of operation, agitator stops *automatically.*

In more ways than one, it will pay you to have an International Milk Cooler doing your work. The nearby International Harvester dealer will be glad to go into this in detail at your convenience. See him the next time you come to town.

INTERNATIONAL HARVESTER COMPANY
180 North Michigan Avenue **Chicago, Illinois**

International Milk Coolers

How War Needs Affect More Than A Million Families Who Have Bought Hotpoint Electric Ranges

WINNING the war is the first job of every American. And that means going without some of the things we've all taken for granted. The engineers and production experts who made more than 1,000,000 Hotpoint Electric Ranges are busy supplying Hotpoint equipment to hundreds of Army and Navy posts, as well as to cafeterias in war industry plants. While the war lasts, only a limited number of new electric ranges will be available for home use, thus releasing tons of vitally needed materials for war production.

TO every family who has bought a Hotpoint Electric Range, we say—you have a durable cooking appliance. If yours is a modern Hotpoint with long-life Calrod cooking units, it should, with reasonable care, far outlast the "duration." Tests show that Calrod units are built with such durability they last for an average of fifteen years under normal kitchen use. If you *should* need replacements, they will be available.

REMEMBER, too, that the proper care of your range will help you conserve food and preserve healthful minerals and vitamins. By correct use of Hotpoint's Measured Heat, you can get the most out of your range and cooperate with Uncle Sam's nutrition and conservation programs. Unnecessary use of high heat wastes current. Study the instructions that came with your range for further suggestions about conserving food and electricity. Or write us for a free, informative booklet on this subject. Hotpoint is always glad to help you in your all-out effort to keep the American family happy, healthy and well-fed. Edison General Electric Appliance Co., Inc., 5610 W. Taylor St., Chicago, Ill.

It's easy for users of all Hotpoint Electric Appliances to keep them in proper condition during the war emergency. Repair and replacement parts are available throughout the country if required.

Hotpoint

ELECTRIC RANGES, REFRIGERATORS, WATER HEATERS, WASHERS, IRONERS, DISHWASHERS, DISPOSALLS, ELECTRASINKS, STEEL KITCHEN CABINETS

Our Experience with a Farm Freezing Cabinet

By ELOI A. ADAMS and JOSEPH H. BODWELL

FOR a long time we have believed that a great deal of cash outlay from the farm could be saved if more foodstuffs could be raised and *kept on the farm* . During the last two years the Extension Service has made an effort to encourage people in rural areas to do just this thing. Why should a farmer practically give away his veal calves or sell a cow to a dealer and then go to town and buy a portion of this same animal or a similar one at three times the selling price?

Having proved to ourselves, at least, that foodstuffs should be conserved on the farm for home consumption, it became necessary that we tell the farmer how to keep his products from spoiling, particularly meats. Lots of folks raise a hog or two, the custom being to kill them in cold weather, salt the pork, cure the shoulders and hams and then eat fresh pork morning, noon, and night until the hog is consumed and everyone is tired, and sick of seeing a piece of the meat around.

For the above reasons we became interested in the Farm Freezer Cabinet and obtained one the first part of last year and began putting food into it during February. The cabinet is 93" x 35" x 36" high. Inside are two compartments, the freezer compartment of 4¼ cubic feet equipped with a small fan, and a storage compartment of 24½ cubic feet capacity.

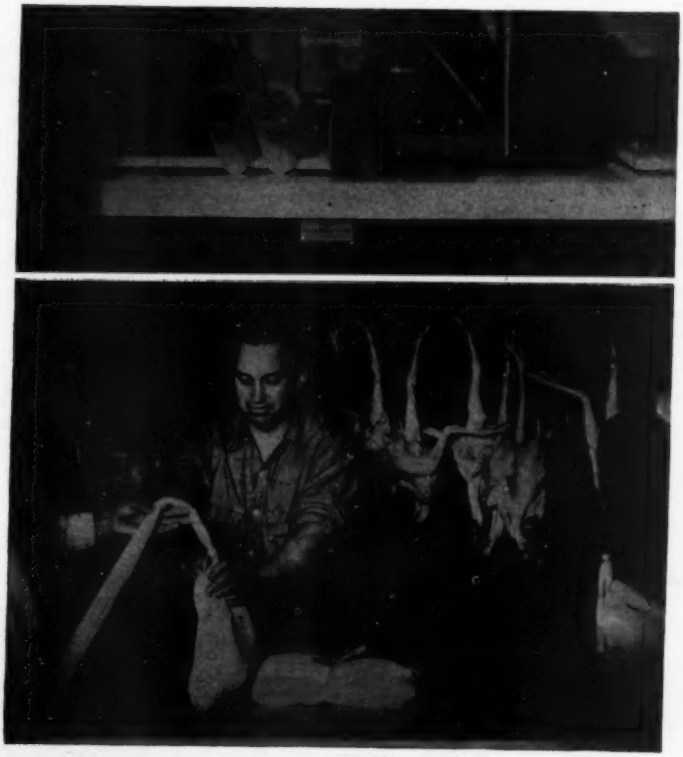
As much as 200 pounds of prepared products can be put into the freezer compartment at one time; the storage copartment will hold about 900 pounds of frozen foods. With the aid of the fan, freezing at a temperature of 10° below zero or lower is accomplished within 8 hours.

The first product put into the freezer was a non-breeding cow for which we had been offered nine cents a pound. When dressed this cow weighed approximately 600 lbs. The cost of killing was two dollars. We cut it up and packed it ourselves. Being "new at the game" we had our problems. We finally got the cow all cut up except one hind quarter. We wrapped each piece in moisture proof paper and put it in the freezer compartment. We tied the meat with butcher's twine and held the paper with elastic bands which we have found much quicker to use and just as satisfactory as twine. This hind quarter which we didn't cut up looked so good that we put it in the cabinet whole and froze it at 10° F.

Eloi Adams is County Agricultural Agent of Strafford County, New Hampshire. He wears the hands of a farmer and uses them in operating his own dairy farm and milk route. He's a 4:30 riser; he's practical; he's a good farmer. Joe Bodwell, in charge of rural work of the Public Service Company of New Hampshire, is primarily a poultry farmer. He farmed for many years, then county agented. In his electric farming activities he still places the emphasis on farming.

It was our intention when we wanted a piece of steak to saw off a piece. Things don't always turn out as expected. When we began sawing with the meat-saw it gummed up and bound and we finally ended up with a broken blade. We then decided to use a carpenter's saw with a blade that would not break; but this saw gummed up and we could neither push it nor pull it, so we gave that up as a bad job. Finally we spotted a cross-cut saw which we use to cut up logs, and found that just the thing. The set was so wide it did not bind but we did lose about a quarter of an inch of meat for every cut. From this experience all other animals were cut into small pieces before they were wrapped and frozen. We even went another step by removing the bones thus taking up less room in the cabinet.

In removing the meat another problem arose, for after meat has been wrapped and stored the chuck can't be told from a piece of sirloin —it all looks alike. From then on we labelled every piece and marked not only what part of the "critter" it was but whether it was beef, veal, or others, and the date it was put into the box. We have had many visitors and they like to handle the frozen products and to drop them to hear the noise, which sounds like



Upper: Different types of containers. Frozen strawberries and asparagus in paper containers. **Lower:** Putting stockinette on wrapped chicken preparatory to freezing.

so many rocks. In so doing, however, we have found that a lot of the moisture proof paper became torn. To overcome this difficulty, all meat has been put into stockinettes which can be purchased very reasonably for this very purpose. First wrapping the meat in moisture proof paper and then in a stockinette makes a wonderful package.

The cabinet is a great thing when it comes to fowl. It has been our experience that when the women folks want a hen killed for the next day's meal, it always seems to come at an inopportune time. Another thing is that when you take the head off of one hen you get just as much blood on you and as many feathers as though you had killed a dozen. Therefore, when we got to killing birds, we killed and dressed sixty at one time (over 200 lbs.), packaged them and froze them all in one day. Now, when we want a chicken for dinner it is just a matter of going to the cabinet and taking one out.

Freezing Vegetables In Glass

Our first experience with garden products was freezing asparagus. We used glass jars and partly filled them with brine. Too much brine, we found, resulted in breakage of the jars when they froze.

The result of this experience showed us that any product having liquid in it should not be put into glass containers unless great care is used in the filling. We have put chicken gizzards and livers in glass jars and have had good results. We now use practically nothing but waxed cardboard boxes (some round and some square) for foods packaged with liquid. In preparing most of our foods we have used government and state bulletins and have received information from the Home Demonstration Specialists at the University. It might be suggested that when referring to these bulletins it is best to read them completely through before getting the product ready. In preparing strawberries we got them all hulled and washed as we read the instructions. Then we went on to read further and found that they had to be covered with a sugar solution which should have been made the night before and allowed to cool. We were not stumped, however. We used the milk aerator and immediately dropped the temperature of the hot syrup down to below 40° F.

To date, we have put into this cabinet two cows, one veal, two sheep, one hog, two hundred pounds of chicken and asparagus, raspberries, peas, blueberries, string beans, sweet corn, tomatoes, peaches, cauliflower, and melons; a total of over 2,000 pounds in eight months.

Comparison of Wholesale and Retail Beef Prices December, 1941

Flank 19 lb.		
6 lb. Tallow @ .04	=	.24
7 lb. Hamburg @ .25	=	1.75
6 lb. Boiling Beef @ .20	=	1.20
		$3.19
Loin 41 lb.		
11 lb. Porterhouse @ .35	=	3.85
13 lb. Loin Roasts @.35	=	4.55
1 lb. Boiling Beef @ .20	=	.20
4 lb. Hamburg @ .25	=	1.00
One Kidney	=	.10
12 lb. Suet & Tallow @ .04	=	.48
		$10.18
Rump & Round 94 lb.		
17. lb. Face of Rump @ .35	=	5.95
2½ lb. Tend'loin Stks. @ .49	=	1.23
6 lb. Short Cut of Rump Steak @ .49	=	2.94
5 lb. Rump Roast @ .35	=	1.75
6 lb. Trimmings @ .15	=	.90
5 lb. Swiss Steak @ .39	=	1.95
11 lb. Top Roasts @ .35	=	3.85
17 lb. Pot Roast	=	5.10
5 lb Soup Bones @ .15	=	.75
4 lb. Hamburg @ .25	=	1.00
5 lb. Tallow @ .04	=	.20
9½ lb. Bones @ .01	=	.09
		$25.76
TOTAL COST AT RETAIL		$39.13
154 lb. @ 18c Wholesale		27.72
Difference		$11.41

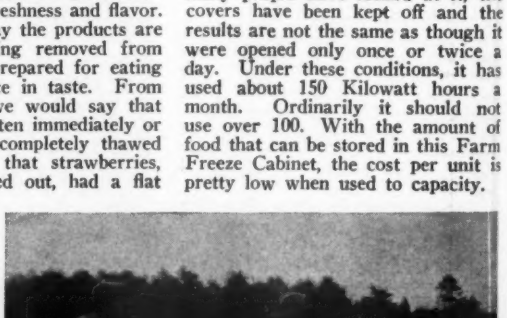
We have found that most fruits have a better flavor if put up in a sugar syrup. Vegetables that have been blanched to stop enzyme action will keep longer than those put in without treatment is what we have read, but we have not had them long enough to find out how true this is. Some sweet corn brought in from the field, wrapped with moisture proof paper and put directly into the box is in perfect condition and tastes as good as fresh corn right from the garden. In fact, everything that has been eaten from the freezer has retained its freshness and flavor. Of course, the way the products are handled after being removed from the cabinet and prepared for eating makes a difference in taste. From our experience, we would say that fruit should be eaten immediately or just before it is completely thawed out. We found that strawberries, after being thawed out, had a flat taste, whereas, when eaten with a little frost in them had the flavor of fresh ones. With meat it seems to make little difference in the flavor whether it is thawed out quickly or slowly. We don't know just what the action is on vitamins. We have used water to thaw out meat and have also let it thaw out in the house refrigerator and as far as flavor goes we doubt if anyone could tell the difference.

Outside of beef, freezing does not improve the quality of any food. It remains the same as when you put it in. We have found that it is possible to secure from the colleges a list of the best varieties of fruits and vegetables to freeze, but in general if it does not taste good fresh it will not taste good frozen.

To us a farm freezer cabinet is another piece of electrical equipment that is no more of a luxury on a farm than the household refrigerator is today. It saves food costs, and gives us high price cuts of meats which ordinarily we would consider we could not afford. It is a means to make full utilization of all foods grown on the farm. It gives one a continuous supply of farm products —pork in the summer, strawberries and sweet corn in December and so on. The preparation of food is cut to a minimum and as far as we can see there is no spoilage like often occurs when things are canned. Finally it maintains the quality of the food products.

There seems to be a great future for freezing in commercial farming as well as for home use. A poultry grower may keep a supply of frozen fowl or broilers on hand to care for his trade. It is being used by fox and mink farmers to keep meat supplies for their animals.

How much does it cost to operate a box of this size? When the cabinet was put in, a separate meter was installed so that this question might be answered, but because so many people have looked at it, the covers have been kept off and the results are not the same as though it were opened only once or twice a day. Under these conditions, it has used about 150 Kilowatt hours a month. Ordinarily it should not use over 100. With the amount of food that can be stored in this Farm Freeze Cabinet, the cost per unit is pretty low when used to capacity.



It's Easier to cut it before you freeze it

HOW DO YOU MAKE A HAY HOIST?

Question: *Will you please send me plans for making a hoist to pull hay into the mow with an electric motor?* W. J. K., Ill., O. G. S., Ohio, M W., N. Y.)

Answer: We do not have any plans for building hay hoists, but the following specifications and illustrations may be helpful.

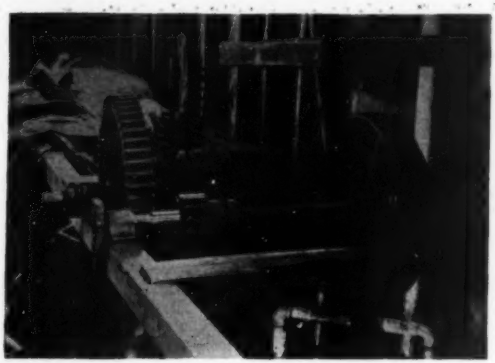
A simple hay hoist such as would be satisfactory on the farm consists of a drum 6" in diameter and 25" long with three or four-inch flanges. The drum is gear driven from a pinion on a jack shaft for reducing the speed. The drum should turn at about 50 revolutions per minute which will give a hoist-rope speed of about 100 ft. per minute. The ratio of the number of teeth on the pinion to the number on the drum should be 1 to 7, that is, if there are ten teeth on the pinion there should be 70 on the drum. Use a 20" pulley on the jack shaft and a 4" pulley on the motor. Or if it is more convenient, use 10 teeth to 90 and a 16" pulley. With such a hoist you could lift loads of 1,000 lbs. with a 3 hp. motor. This is what you would need if you were using slings and taking off half a load of hay at a time. If you use a fork holding 600 lbs. or less, a 2 hp. motor will be ample. Or you can speed up the rate of hoisting to 155 ft. per minute by using a 6" pulley on the motor, which will require about 5 hp. for a 1,000 lb. load.

The above computations assume the fork or sling on two strands of rope from the carrier so that the actual rate of hoisting is one-half the rope speeds given. The overall efficiency of hoist, rope and pulleys is assumed to be 50 per cent.

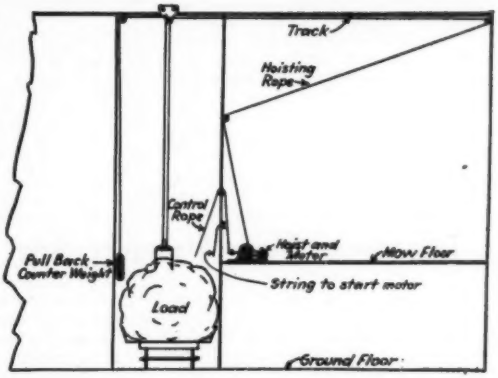
It is necessary to have some means for throwing the hoist out of gear so the fork may be pulled back. The simplest arrangement where you are hoisting at low speed is to have a splined shaft with a pinion which may be slid along the shaft out of mesh with the driving gear. In using this hoist you would stop the motor, dump the fork, slide the pinion out of mesh, unwind rope from the drum while the man on the load pulls back the fork by hand and sticks it in the hay. Then you would slide the pinion into mesh and start the motor. When the fork reaches the proper point the motor would be stopped and the load tripped.

One-Lever Control Desirable

A much better arrangement is to have a clutch and a brake. I personally prefer a one lever control. In normal position a spring or weight holds the lever down and puts on the brake. When you pull the lever to its middle position the drum is free. When it is pulled upward, the clutch engages and hoisting starts. With this arrangement one can control a hoist from the load of hay by a rope, using a counterweight to pull back the fork.



Upper: A simple drum hay hoist made by an Oregon Farmer. It is located in the hay mow and is operated by a 2 hp milking machine motor. The pinion slides on the splined shaft into and out of mesh with the large gear to take the place of a clutch. With the gears in mesh and motor stopped, the stick shown through the spokes of the pulley will hold the load and keep the rope from unwinding. Drive belt is shown loose; motor is on the milker. **Lower:** In this barn the hoist and motor are on the mow floor. They could be on the first floor or in some other location. The motor starting string, hoist control rope and trip rope are all within easy reach of the man on the load, but not in his way. A suggestion for counterweight installation is shown. It could be in the driveway or at the end of the barn, inside or outside.



How to Use a Hay Hoist

to Save a Man and Team or Truck

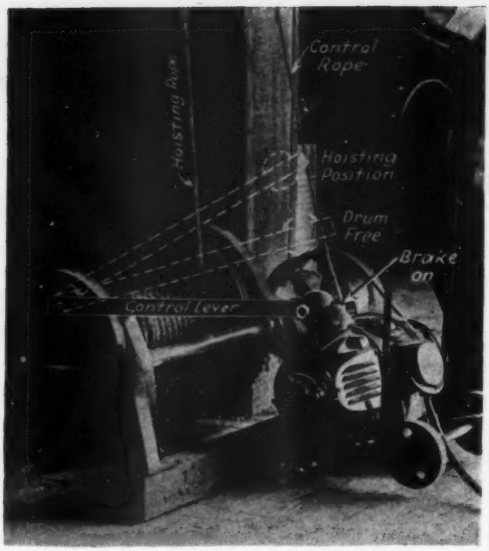
By GEO. W. KABLE

TWO of the illustrations show a single lever controlled hoist and the locations of control ropes with respect to the man on the load. In using a single drum hoist of this kind, it is necessary to either pull the fork back by hand, or use a counterweight to pull it back. A counterweight is very desirable and makes what I consider the ideal hay hoisting arrangement.

Counterweighted pullbacks may be installed in three ways: (1) If the barn is as high as the length of the pullback, just attach the pullback rope to the carrier, run it over a pulley high in the barn, and let the counterweight run up and down. (2) If the barn is not high enough, attach the pullback rope to the carrier, run it through the pulley, then down through a pulley attached to the counterweight and back up, attaching the end near the pulley at the top of the barn. You will need twice as heavy a weight and it will pull the

carrier back twice as far. (3) The third way is where there is a long pullback in a long barn. In this case the counterweight may be on a carrier running on a guide cable attached outside near the end of the hay track with the other end anchored to the ground at whatever distance is necessary to give the required pullback. In all three cases the weight is pulled up by the motor as the carrier is pulled back on the track. It is not lifted while the hay is being hoisted, so does not call for a larger motor.

In operating this single drum hoisting system, the man drives up on the load. First. He pulls the string and starts the motor. The brake is on the hoist automatically and clutch released, so the carrier does not move. Second. He gives a slight pull on the control rope, which releases the brake, and the fork starts coming back to him, pulled by the counterweight. If the hoisting rope is twisted, he eases the fork down within reach with the control rope, untwists the fork, releases the brake and sticks the fork. No more harpoons or tined forks flying down at you at high speed. They are under your control. Third. When you are ready to hoist, stand at one end of the load, pull sharply on the control rope and up goes the hay so long as you pull. If you should release the control rope purposely or accidentally, the brake would stop the load wherever it happened to be. Fourth. Stop the load, trip it; then bring down the fork for the next load. When the load is off, pull the string to stop the motor, and go after the next load.



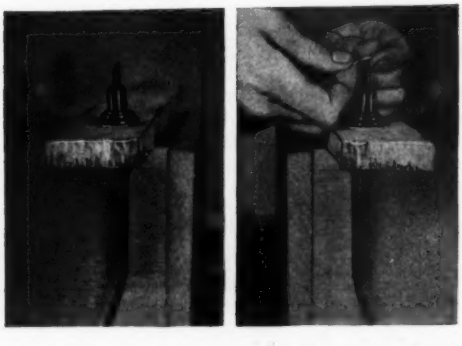
This is one of the commercial hay hoists available at about $60. It has a single lever control as shown. The control rope may be carried through pulleys to a point convenient to the man on the load. The motor may also be started and stopped from the load by a remote control switch or pull-chain switch with a string within reach. This remote control is used with an overload relay starting switch. The whole operation of hoisting is done by one man on the load.

Someone is sure to say: Why not use a two drum hoist and pull the fork back with the motor? I've tried that, too. I did not like it. The hoist costs more. It took an extra man to operate it. Then, the carrier came back so fast and violently that it bent the track, tore off the stop and gave us a lot of trouble. If you want a plaything, use a double drum hoist. If you want a labor saver, use a single drum hoist with single lever control and a counterweight.

Electric Toe Punch for Chicks*

The need for toe punching arises when some special breeding work requiring the marking of stock is being carried out. The marking of baby chicks for identification is a more difficult problem than the adult fowl because the marking must be done soon after hatching and when the chick is very small. In addition, to be completely useful it is essential that the toe marking should remain easily identifiable throughout the entire life of the fowl.

A hot needle toe punch was developed by Mr. K. S. Kirkby, farm manager at Messrs. Clark King & Co.'s experimental poultry farm, Cheltenham. Mr. Kirby says it is the fastest and most reliable method he has used. The hot needle method is, incidentally, preferred by the (Victorian) Department of Agriculture.



Wood burning tool set in one inch hole in a board with point up ready for toe punching. These tools are used in regular 115 v outlets. Left: Showing triangular point. Right: Pushing the web on point.

Homemade and commercial types of equipment are suggested in the article. The homemade unit consists of "a suitable resistance wire to form the hot needle (this is similar to that supplied with an electric 'Poker Work' outfit), a small 230v to 2v, 50 watt transformer and a suitable mounting." A "Poker Work" outfit complete with three needles can be purchased and adapted to the work of toe punching. We assume the "Poker Work" outfit is similar to the wood burning sets available in this country for as little as $1.

Since a chick has four different webs which may be punched, it is possible to work out 16 different identifying arrangements of punch marks. The web of the foot to be marked is opened and then lightly and quickly pushed on to the needle and off again. With very little practice 100 chicks can be marked in less than 15 minutes.

The value of the electric punch lays in the fact that (a) the flesh is automatically cauterized, (b) there is no bleeding, and (c) the opening heals immediately and never closes.

The American wood burning tool has a sharp triangular point which may be used as it is or filed to a round tip.

*Condensed from *Victorian Rural Electrification News*, Melbourne, Australia.

How Electricity Helps in Repair and Maintenance

Winning Letters in March War Production Contest

First Prize

• **"I believe** my electric bench grinder would head the list as a *must have*. I use it nearly every day for some job from sharpening household knives to grinding off large castings. It sharpens the mower sections and is used to cut metal in place of a hacksaw, sharpens all of my planes and chisels, and I haven't hardly a piece of machinery that it hasn't been used on somewhere.

"Next I would rate my 8" bench saw with which I can do a perfect job of any kind of wood cutting, no hard labor and very much faster than hand sawing.

"Then comes my electric hand drill which will put a hole through ½" of steel in a very few minutes and will work where there wouldn't be room for a hand drill. I also have wood bits fixed up to work in this drill.

"My electric welder isn't used as much as the above, but when I do use it, it means saving a trip to town; and on a few break-down jobs it has saved a half day's work to get a part off and on. I can bring the machine to the welder here in my shop.

"The equipment used the least, day in and day out, is my paint spray gun; but when I have a painting job I wouldn't want to do without it. I painted my house and two-car attached garage, all except the windows, with it in 10 hours. I painted the old tractor I used to have, with it in two hours, and painted places it was impossible to get with a brush.

"I also think my electric fencer belongs in this list. It doesn't help repair, but it sure *saves* a lot of repair and maintenance. I put up 32" woven wire with one strand of electric wire about 10" above it all around the farm about six years ago and all of this fence is just as good as the day it was put up. No stock pushing and bending or breaking it and no sagging wire, no loose posts, no fence upkeep, until the wire rusts away, which I don't think will be for a long, long time.

"Of course, my wife's electric sewing machine helps in the repair of our clothes, and once in a while a combine canvas or some other farm cloth sewing job, which I realize it shouldn't be used for, as it is too heavy for a home sewing machine.

"I just about forgot my electric soldering iron, but I went out to do a little repair job a while ago and had to use it before I finished the job. I have a torch to heat irons on, but on most soldering jobs it is easier to plug in my electric iron than to fool with the torch. Incidentally, I soldered all of the gutters on my house and barn with the electric iron."

VERNON D. GELABERT,
R. 1, Miami County,
Louisburg, Kansas.

Second Prize

• **"Electricity** is playing a large part on our farm in helping defense.

"The salt air here is hard on farm implements. It causes them to rust, so as soon as we have finished with them in the fields, we wash them off with water from our high-pressure deep-well pump. Then, if they begin to rust, we give them a good coat of paint with our electric air compressor and paint spray gun. The compressor is also used in keeping the car, truck and implement tires up. Water is also piped to the house and to troughs in the barn from the pressure pump.

"A few years ago we had to make frequent trips to town for repairs, but our farm shop is now equipped with a 200-amp. electric welder, an electric drill, the air compressor, a 10-inch lathe, and a grinder for keeping tools sharp. A great deal of time and money is saved as we now make almost any repairs and seldom have to call on anyone else to help us. We also have a band saw, jig saw, circular saw, and wood lathe. They are a great help in making repairs in wood, and in farm building."

JOHN COMPTON,
RFD 1, Box 63,
Elton, Louisiana.

Winners of $3 Awards

• **"An electric welder** is my answer for efficient and low-cost repair and maintenance on the farm. Four years ago my repair bills exclusive of time lost in expensive trips to town averaged $125 a year. The first year after buying the electric welder the blacksmith bill dropped $100, thus more than paying for the welder the first year. Electricity bills increased not over $1.00 per month. Welding rods cost about $8.00 per year.

"With a day's work and a dollar to cover expense of rods and electricity, I have had two years of trouble-free operation from a wheel spring-tooth rake which I purchased for $60.00. A new one would have cost three times as much. The nucleus for my two-bottom 18-inch tractor plow came from a junk pile with the original cost of $5.00. Cost of new parts was $27.00; paint $1.00; electricity and welding rods $0.50; total cost $33.50. Two days of labor made a plow which new would have cost $186.00."

DAVID P. TOZER,
R. 2,
Ellensburg, Washington.

• **"Electricity helps** repairs and maintenance on our farm by operating an electric emery wheel and grindstone to sharpen tools, and an electric blower on the forge. It has cut repair bills 40%. An electric fence saved one-fifth of the cost of maintenance because it takes less wire and can be moved easily and quickly. And lights in all the buildings save time when emergency repairs are made at night, and are one of the best fire preventers on the farm."

FORREST PUELLMANN,
R. 1,
Chesterfield, Mo.

• **"We helped the repair** and maintenance problem on our farm by buying an electric welder. My son went to night school for welding and now is able to weld any broken machinery. Many neighbors are glad to have their broken parts of machinery repaired at a moment's notice. This not only saves us many dollars but is a great source of income for my son as well as saving us many hours of time and travel."

JOHN M. MEREDITH,
Wallkill, N. Y.

• **"An electric motor** on the emery wheel has proved a big thing on this farm. My husband is able to keep many of his tools in good condition. In silo filling and corn shredding time, he sharpens the knives for the community machinery. This work must be done at night, and can be with a 100-watt bulb for light.

"The electric fence is a help. It requires less work and wire than the ordinary fence. Formerly the man of the house had to start the engine on wash day and crank the gas engine for pumping water. There were times when we were completely out of water. Now the water question is settled with an electric pressure system. Last but not least is the light on my sewing machine. It helps repair the clothes on our farm."

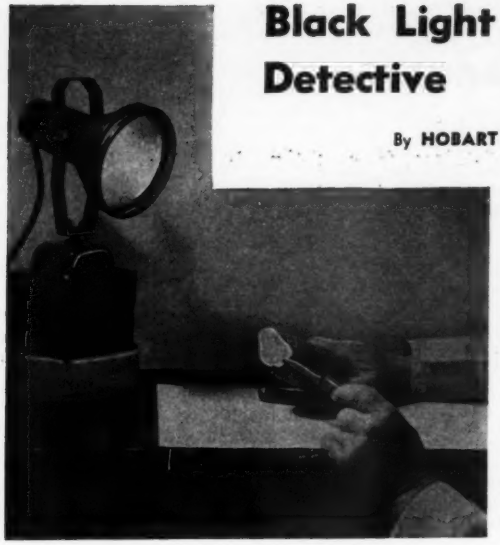
MRS. LOUIS ANDERSEN,
R. 2, Sparta, Wis.

• "We have found **electric welding** one of the best time-savers on the

. . . . . More on page 24

Black Light Turns Detective

By HOBART BERESFORD



Partial identification of ring rot in potatoes is made possible by the new black light units. With the development of the new projector-type mercury arc flood light, it is possible to concentrate the ultraviolet rays on seed potatoes, thus identifying the diseased tubers by the greenish glow produced by the infection. Further examination of the cut tuber will reveal a fluorescence of the infected area. The detective work of the ultraviolet (black light) at this stage prevents the spread of disease that might otherwise be transferred to healthy tubers during the cutting and planting operation.

The use of ultraviolet light is an established practice in many seed analysis laboratories where the fluorescence of different seeds may be easily distinguishable under the ultraviolet light. The early stages of mold growth also may be detected by black light as most mold spores are highly fluorescent. Mold that is not easily seen under ordinary light may be detected on cheese or on grain, making it possible to prevent serious loss.

In the inspection of storage eggs it is possible to identify eggs that have received an oil treatment as the oil increases the intensity of the fluroescence under the black light. Untreated eggs are also fluorescent, the brown eggs appearing a bright orange, the chalk-white eggs characteristic of the Leghorn breed appear to be violet, and the tinted eggs in various shades of pink and orange.

The new mercury arc spot bulbs are a combination of the S-4 mercury arc unit and the sealed beam projector spot or flood lamp equipped with a suitable filter. These bulbs are rated at 100 watts and may be operated by the same auxiliary equipment as is used for the S-4 mercury arc bulbs recommended for poultry lighting. They are available as complete units or lamps only.

Binder Canvases and Milker Rubber

Recently we have had letters from International Harvester, De Laval and Babson Bros. telling of shortages of rubber for milking machine parts and of binder canvases, and giving some very worth while pointers for users on the care of these items to prolong their usefulness.

Binder Canvas

If your binder canvas has not been properly cared for, rescue it NOW from the corner or the mouse nest. Clean it and hang it up to dry, if damp. Implement dealers have new wood stays, and may have rivets, straps and buckles. If the canvas is torn or has holes in it and you cannot buy new, scout around for some used canvas for repairs. A tent or awning maker, harness maker or cobbler might sew and rivet it for you, if you cannot do it at home. And from now on, take the canvas off the binder at the end of harvest. Dry it; roll and hang or wire it up to the ceiling or suspend from storage pegs in a dry building away from rats and mice. It is precious, and may become more so.

While milking machines have high priority quotas, the shortage of rubber in this country is real. You may not be able to get new—and for patriotic as well as economic reasons you should care for the rubber you have. Here are some ways of doing it:

1. CLEAN RUBBER LASTS LONGER. Butterfat causes rubber to become soft and spongy.

2. As soon after milking as possible, rinse rubber parts in cold water, then wash them with hot water and a good washing powder or dairy cleanser. DO NOT use soap or soap powder.

3. Give rubber parts a good brushing. Avoid striking hard objects with rubber stretched over metal edges of teat cups. Handle carefully. Rubber cuts easily when wet and small holes may result from a blow or a scratch.

4. Rinse in clean hot water.

5. Sterilize with lye, chlorine solution or boiling water. Do not use chlorine solutions exceeding a strength of 250 parts per million. It causes rubber to check and become lifeless. A milker's rubber parts can stand boiling—if they are clean. If butterfat has collected on rubber, boiling will leave the rubber gummy, and gummy rubber will not last long. A boiling in lye water is recommended where rubber has a coat of fat from improper washing. Never pour boiling water onto rubber so it hits in one spot or permit the rubber to lie in contact with hot metal.

6. Save worn out rubber to turn back to the government through the dealer or other collecting agency.

In Christmas Tempo

I've lived through that era
when sweeping a room
Meant back-breaking work with
an old-fashioned broom;
When cooking, dish-washing,
and laundry-work's fag
Left me crabby, exhausted, and
limp as a rag.
Now—the laundry's a trifle. It's
done in a jiffy
With washer and mangle, efficient and spiffy.
The electric stove—clocked for
roast lamb and green peas—
Sends me off to my club with a
mind quite at ease.
My vacuum sweeper has swept
every floor;
Now my dishwasher handles that
"housewife's worst chore";
I check on the furnace; turn on
a soft light;
Tune in on a concert.
Electric living's all right!

ALICE COOK FULLER.

Electrically Brooded Poults

These electrically brooded poults are at the hatchery and experiment farm of Wescott and Winks, Sumner, Iowa. Since turkeys have become an all-year item on hotel and home menus, the number of turkeys being produced is increasing rapidly. They can be raised in confinement on wire screen or by the Michigan "stone pile" method of limited yards. (Droppings are washed down between the stones). On the farm at Sumner, Ia., a four year rotation is practiced, with turkeys occupying the land one year in four. They follow a planting of red clover and timothy, using this as green feed. Poults are taken from the brooder houses and put on the range when 6 to 10 weeks old. They are grain-fed on the range for 16 weeks. During that time each bird produces about 40 pounds of manure worth 12 cents in terms of commercial fertilizers.

A California Milking Parlor

By MARY SHOOP

"Won't you come into the parlor?" an employee might say to a cow at the Shady Grove Dairy near Pomona, where a streamlined milking parlor represents the latest in modern dairy practices. Electric milkers are important in the sanitation and speed with which the dairy's herd of 75 cows are handled.

Above: Milking parlor at Shady Grove Dairy showing observation window.

Left: This is the way the cows are milked in the sanitary milking stalls.

Three animals are accommodated simultaneously in the milking parlor. Each cow has an individual stanchion, which opens to receive her, is closed while she is being milked, and opens to permit her to leave. The concrete floor is raised to a convenient working height, and it is hosed off continuously for cleanliness.

The milking room is a separate room from the rest of the dairy. Its sanitation makes it the ideal way to produce cleaner milk and to milk cows with greater speed and less work. Only two men are required to attend to the milking, bottling and sale of milk.

Visitors are welcome to view milking operations through large windows. C. S. Musser and sons are the proprietors of the dairy, which is one of the first in California to install a modern milking parlor.

One Hundredth of One Percent

"During the fiscal year 1941 it was necessary to apply the tuberculin test to approximately 238,000 dairy and breeding cattle intended for interstate shipment in order to comply with the requirements of the States of destination," says Dr. A. E. Wight of the U. S. Department of Agriculture, in charge of tuberculosis eradication work. "Of this number only 19 were reported as reacting to the test, or 0.01 percent."

The Most Important Electrical Appliances

Many farmers have asked us what we think are the most important electrical appliances, as we have had our electricity for over three years, and many of them are just getting theirs. So we tell them to wire as many of the buildings as possible and put in as many outlets as they are able to. Wires for heavy duty motors should be taken into consideration too. But just do not think that all one will ever care about is lights or perhaps the radio, iron, or washing machine. We have all of these, and they are wonderful time savers, but what about the time saved in snapping on a flood light in the barn yard to help locate the cows on a dark night? It only took an extra bulb and reflector to do the trick for us.

MRS. W. T. SLEASMAN,
Powell Butte, Ore.

HOW'S YOUR BATTLE EQUIPMENT?

AMERICAN FARMERS face the most tremendous task of agricultural production in history. And America is counting on *you* for your share in winning the battle of food.

Smooth-running farm machinery will be a big help to you and to the nation.

That's why it will pay you to put your farm equipment in shape. Fix it up. Replace worn parts. Clean it up. Paint it up. Restore every piece of equipment you own—electrical or otherwise—to full operating efficiency.

Although new production of many farm implements and appliances has been curtailed, adequate stocks of repair parts are still available. Find out what you need and order it promptly. Take time *now* to get every last tool and machine you own ready for its share in your hard work.

Preparing his weapons for battle is part of a soldier's job.

Westinghouse again sponsors the National Rural Electrification Contest for 4-H Club members. See your County Extension Agent or write Westinghouse for full information.

4-H CLUB MOBILIZATION WEEK, APRIL 5-11

Join a 4-H Club and help in the Victory Program

Westinghouse

Westinghouse Electric & Manufacturing Company, Pittsburgh, Pa.

ELECTRICAL PARTNER OF AGRICULTURE

Copr. 1942, Westinghouse Electric & Manufacturing Co.

Electrical Housekeeping

Edited by **GAIL MEREDITH**

Hanging on to the Vitamins

THE day has come when every good cook must learn to cope with vitamins. Look upon it as just good management or look upon it as part of our war effort if you will. Anyway the government itself is highly concerned about increasing the nourishment in the food our famiiies eat. That improvement can come, they insist, not only through seeing that everyone has enough of the common everyday foods, but in seeing that those foods are so cared for and so prepared that they get to the table with all their beneficial goodness in them.

For vitamins are no new thing developed by Burbank or discovered by Wilson on the far plains of China. They are just nourishing properties in the familiar vegetables and fruits, in the dairy products, the meat and the poultry products we've always used. Though we have only recently known them by name, we've been eating vitamins all our lives.

More or less. And it is the less that has been bothering the food scientists. They think we are getting only part of the food we raise or buy. It may look all right, but those vexing vitamins have a disconcerting habit of going AWOL on the slightest provocation.

We have to learn to keep them where they belong. It is likely that most of them are still in the vegetables and fruits on the counter in the market if those foods have been kept cold, really cold, ever since they were picked. You can't see a vitamin, but you can tell whether the food looks fresh, whether it is firm or crisp, and well colored. If it is, that is the food you want. Watch for the cabbage with the green leaves, and frown at the grocer if he starts to strip the dark outer leaves from your head of lettuce. Wilted drooping, stale vegetables advertise the absence of full food value.

When you take them home, get them into the refrigerator promptly. It is amazing what proportion of those vitamins just disappear from that food if you leave it standing around at room temperature all day.

When your own garden comes to bearing, remember that it is altogether too easy to lose a good part of the most essential food value in your vegetables by picking them early and leaving them lying in a pan on the kitchen table till night. Pick food close to the eating if you can, or pick it, wash it, and get it into the cold of the refrigerator until you are ready to cook it.

Keep Them Frozen In

After you bring food home from the storage locker in town, keep it frozen solid until cooking time. Letting it stand around half frozen and half thawed is an invitation to those vitamins to be off and away. And fresh or frozen, make no mistake about it, once those vitamins have slipped the leash, they're gone. All the King's horses and all the King's men couldn't put one of them back into a single pot of spinach.

The cooking is as important as the storing in keeping the vitamins in their place. Vitamins aren't all alike to be sure, but, without trying to learn the personal foibles of each separate alphabetical vitamin, you can remember that as a family they do not like air, nor exposure to high heat for a long time, nor being drowned in large quantities of water.

Cook in Little Water

Working it backwards, then, you can see that if you want to keep those vitamins where they belong, you had better cook your vegetables in the least amount of water possible, bring them to a boil as fast as you can, then cook them with gentle heat just till they are done. No more. The shortest possible cooking is best. Cover most foods tightly, and remembering their dislike of air, keep from stirring them.

If you used to add soda to green vegetables to heighten their color, leave off doing it. Some vitamins dislike it so much that they leave on the instant the soda goes in. Shredding vegetables for cooking should be done just before they are dumped into the boiling water, lest the vitamins vanish into thin air, or trickle out with escaping juice.

To catch all the vitamins as well

as minerals in your canned foods, use every bit of the juice either with the vegetable itself, or in cocktails, salads, or soups.

It takes just a little different care with the food we are handling, more care in selection, more care in keeping perishable foods cold, and more knowledge of safe cooking to hang on to those vitamins.

Dust Catchers

There are women walking around the world with a broom in their hands and a vacuum cleaner in the back hall. Wasting time, and strength, and woman power, they are, at a time when there is a premium on all three.

"Oh, just this little job! The broom's quicker," you say?

Quicker to go out and get the broom and the dust pan to sweep up the floor, stoop over and coax every speck of that pile of litter into the pan, then take it out on the back porch and empty it, and come back in and hang up both pan and broom?

You're fooling.

Besides just that few minutes sweeping is not the end of the matter. You slick up the floor; you get the dirt you can see, but you leave a good deal in the rug, and you sweep a good deal of it up into the air. It will come down on tables and chairs or light on curtains and woodwork when you finish stirring it up. Then that part of

the dirt will have to be taken up too. There is enough in the air to settle about the room without your going out of your way to stir up the dirt on the floor so it can settle somewhere else.

Most of the dirt is on the floor in our houses anyway; 80% or more. If you bring that vacuum cleaner out of the closet and plug it into the handiest convenience outlet, you can pull the dirt off bare floors, off linoleum and out of the rugs, and leave it shut up in the bag to be emptied later out of doors, to be disposed of someway without redistributing it.

You will get the dirt you can see and the dirt you know is there even if it is out of sight. That's the sand and grit that sinks down into the pile of your rugs; that's the dust that gets tucked away in out of sight corners, under the radiators, behind heavy furniture, the dust that has sifted into the crack between floor and baseboard.

If you have a small cleaner, hand or tank type, or if you have attachments for your larger cleaner, this definitely is the time to bring them down from the top shelf of the hall closet and put them to work keeping down dirt.

There are several reasons for this. Good housekeeping. Yes. And because those tools will give you a cleaner house with less effort and less time, and very important, too, for this wartime economy, because regular and thorough cleaning will prolong the life of many things that dirt will wear.

You know a clean rug will last

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WHEREVER WOMEN sew a lot, you'll always find a Singer. This is the machine that is fast, smooth, and *reliable* . . . built with all the skill of Singer's ninety years' experience.

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SINGER

SEWING MACHINE CO., 149 Broadway, New York

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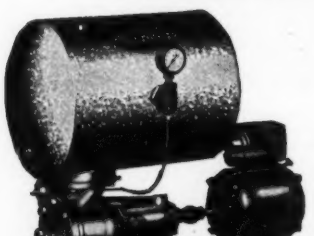
Get 10% more wool from same sheep or goats with the fast, easy-to-use Shearmaster. Powerful ball-bearing, fan-cooled motor inside the special **EASY-GRIP** handle — diameter barely 2 inches. Designed for farm flock shearing. New professional type tension control. Removes fleece from sheep in a few minutes. No second cuts. Longer fibre wool grades better — brings more money. Saves time — work. Pays for itself quickly in extra wool secured. Shearmaster, complete with 2 combs and 4 cutters, only $26.95 at your dealer's. Slightly higher west of Denver. Write for new Stewart bulletin, "Harvesting the Farm Flock Wool Crop," and FREE catalog of Stewart electric and hand-power Clipping and Shearing machines. Made and guaranteed by Chicago Flexible Shaft Co., Dept. 30, 5600 Roosevelt Road, Chicago, Ill. *Over Half a Century Making Quality Products.*

RUNNING WATER INCREASES PRODUCTION



CUT SHOWS TURBO-LIFT SHALLOW WELL SYSTEM WITH 7½ GALLON TANK

Regardless of the depth of your well, its size, amount of water required or pressure desired at surface—

AMERICAN-MARSH CAN FURNISH THE PUMP

And, whether you have a deep or shallow well, you will have a noiseless pump with ONLY ONE MOVING PART!

INVESTIGATE NOW! DON'T DELAY!

Tell us your requirements and obtain our recommendation without any obligation to you.

AMERICAN-MARSH PUMPS, INC.

BATTLE CREEK, MICHIGAN, U. S. A.

longer than a dirty one. The embedded grit and dirt are harder on it than frequent use of the cleaner. Every time you walk across the rug, you press the nap down on some of the sand and this cuts off bits of the nap under your feet.

Dusting draperies and upholstered furniture regularly with the cleaner means that they will need laundering and drycleaning less often.

It is easier to clean the mattresses regularly on the bed than to carry them out of doors and beat them with a carpet beater. It is easier to push the nozzle of the cleaner along the bottom of the baseboard to get out all of the lint and dust

that sifts into such crevices than to fight the carpet beetles that like to breed there.

Much of the dusting can be done with a small cleaner or the attachments of the big one. The moldings and the top of the doors and windows, books, piano key boards and strings, the inside of the radio, bed springs, screens, and registers are easier to get at with the long hose of the cleaner than by hand.

Care for Your Cleaner

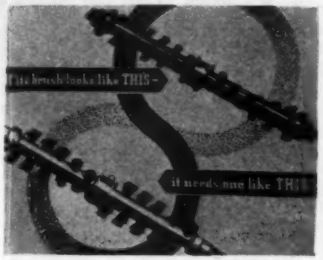
The small cleaner or the nozzle at the end of the hose on your big one saves your back when you are cleaning the dust from the stairs.

Owners of vacuum cleaners are charged with the task of keeping those cleaners on the job, of maintaining their efficiency, and keeping the motors humming.

That is not just the economic urge to preserve a tool we have spent good money for, either. It is the need to make sure existing equipment will give its full measure of service in these times when the materials that go into it have to be put to other uses.

There is one thing no vacuum cleaner can do. It cannot, of itself,

get rid of the dust it picks up. Emptying the dust bag regularly is the very first step in regular care.



The manufacturers are likely to tell you to empty it after every cleaning. Some may say every week. It is certain that a cleaner cannot do its work thoroughly with a bag choked with dust.

Once a month turn the bag inside out and brush it well. If you have a second cleaner, use that to get every bit of the dirt from the bag.

Keep it clean, but do not wash it. Washing the bag removes the filler that helps to make it dust proof.

The brushes have to be kept free of hair, ravellings and lint. On some cleaners you can adjust them as the tufts wear shorter, but when they are too worn to pick up litter, they should be replaced.

Wipe off the attachments and the base of the cleaner before you put them away.

Oil your cleaner according to directions. Some of the new machines are oiled by the manufacturers for long service, but you should know what yours requires. If you have lost the directions, call or write the firm that sold it to you and ask them what oiling it needs. Then write down the directions and put the card where you will be able to lay your hands on it when you need it.

Watch where you are going when you run your cleaner. You should not ask it to pick up glass, bobby pins, nails or a lost penny. The glass or metal may chip the blade of the pan or poke a hole through the side of the bag. Better take a minute to pick up these things by hand.

If you have a roomy cleaning closet where your vacuum cleaner can stand, you are lucky. But if you haven't, be sure that you put it in a clean, dry place for the sake of the cleaner and the motor. Give it elbow room, and watch particularly that there is no danger of any thing sharp picking a hole in the bag.

Why an Electric Range is Different

(January Contest Winner)

Thirty years ago this April I came to this farm, a bride. For nearly twenty-five years an excellent make of coal range graced our kitchen, supplemented at various times by three different types of oil stove for summer cooking and canning. Nearly five years ago when an electric line made it possible we discarded the faithful old coal greedy, sooty, ash producing, temperamental heating range and installed an electric range. Thus I feel qualified to give some reasons why the latter is different.

On frosty fall mornings, those early farm breakfasts of fresh sausage or ham and eggs and coffee with hot biscuits and butter and perhaps new sorghum needed to supply corn husking energy require quick heat. The huge cold range must have a previously "laid" fire or kerosene-soaked cobs or light kindling at hand. If the combination and the draft is right and a brisk blaze rewards your first efforts you may soon stoke with wood or coal. By the time your biscuits are ready and other preparations made you may find the oven hot enough to produce the quick rising and beautiful brown blush all well bred biscuits wear. If

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OF THIS COUNTRY

1 BY SAVING VALUABLE TIME AND LABOR: De Laval Milkers save at least half the time and labor of milking by hand.

2 BY INCREASING MILK PRODUCTION THROUGH BETTER MILKING: Best, fastest and cleanest milking maintains highest production throughout the cow's entire lactation period and lifetime.

3 BY IMPROVING THE QUALITY OF THE NATION'S MILK: The many exclusive sanitary features of De Laval Milkers keep bacteria counts low — make production of cleanest high quality milk sure and easy.

4 BY IMPROVING HERD HEALTH AND PRODUCTIVITY THROUGH BETTER MILKING: De Laval's correct, fast and gentle milking action and perfect-fitting teat-cups milk each cow properly.

THE DE LAVAL MAGNETIC SPEEDWAY

THE DE LAVAL Sterling

The world's best, fastest and cleanest milker — the only method of milking that assures that each cow will be milked in the same uniform, regular and correct manner each milking. All units in use milk alike with pulsations controlled by magnetic force directly from master control in the pulso-pump.

A worthy companion to the wonderful De Laval Magnetic Speedway Milker — the De Laval Sterling provides De Laval-quality milking and is a great milker particularly for smaller herd owners to whom lower price is an important consideration. The Sterling Pulsator has only two simple moving parts.

DE LAVAL SEPARATORS ARE SAVING, TOO

Butterfat is the most valuable of all animal fats — we can afford to lose none of it. Thousands of farmers are making dead sure of this by installing new De Laval Separators, for they know that *all* De Laval Separators, regardless of size or price, skim cleanest, last longest are easiest to wash and cost less per year of use. A size and style for every need and purse.

THE DE LAVAL SEPARATOR COMPANY

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KEEP THEM MILKING!

A DELCO WATER SYSTEM

Does the Job Better

It saves hours of chore time for other farm work. Does your pumping for 1⅝c an hour. Delivers to your faucets for 5c as much water as you could pump by hand in 3 hours. It increases the production of milk, eggs and pork by bringing water right to the stock. For example, drinking cups for cows increase milk production as much as 10%.

QUIET—TROUBLE FREE
ECONOMICAL
IT IS A PROVEN
GENERAL MOTORS VALUE

Every part, from the Heavy Frame to the dependable "Capacitor Start" Delco Motor is extra large, extra strong. Its one-piece crankcase is so rigid, the driving mechanism stays in line. Its Double Action cylinder delivers water *on each stroke of the piston.* Its Automatic Pressure Switch starts and stops the pump at just the right time to maintain the desired pressure and still save electricity.

Get the facts about *all* the features that make a Delco Water System a time-and-money-saving investment that pays for itself. Ask your Delco dealer, or send coupon. Buy on F.H.A. terms if you wish.

DELCO APPLIANCE DIVISION
General Motors Corporation
ROCHESTER, N. Y.

DELCO APPLIANCE DIVISION,
General Motors Corp.,
406 Lyell Ave., Rochester, N. Y.
Please furnish facts on Delco Water Systems.
Name_____
Town_____
State_____ R.F.D._____

BUY DEFENSE BONDS AND STAMPS

kerosene is your heating medium the tank has been previously filled. Perchance a bit of pumping is done or a wick adjusted to the level where there is no smoke and maybe not much heat. The results may be biscuits brown and hard on the lower crust, with anemic uppers and mummy like texture.

Fuel Vs. Electricity

Contrast these preparations for biscuits and trimmings with a turn of the wrist as you visit the kitchen immediately upon arising. Make haste in dressing or your kettle will boil before you are ready. Set your oven temperature and turn on the oven. By the time the liquid is added to the previously mixed dry ingredients we farm women often prepare, though our city sisters buy it prepared, the oven has snapped off. In goes the biscuit sheet, on the table goes the rest of the breakfast and the family assembles. The perfectly insulated oven has stored up the required heat and may be turned off from three to five minutes before you open the door, depending on how soft or how crusty you prefer the brown beauties. No opening and closing the door to peek at the progress, wasting precious heat and jeopardizing results within. Every day in the year you are sure of success!

Coal may vary in quality, wood may be too green or too dry, stored oil or gas may accumulate water, but the fuel fed through the copper wire never varies. After a serious illness I was able to take over cooking sooner because the electric range was so simple and easy to operate.

Control for Best Results

Our biscuit baking illustration could as well have been more complicated baking. The heat control of the electric oven gives absolutely perfect results whether it be high temperature for flaky pastry or moderate to low for delicate cakes or steady low for faultless roasting of meats and fowls. The other stoves mentioned cannot be depended upon to give such uniform results, lacking as they do the ventilation and insulation that distinguishes the electric oven.

My experience with natural or artificial gas is limited, but from some observation I am convinced the electric range has properties they lack. Its heat is produced without a flame. In this it is unique and makes for absolute cleanliness. There are no fumes, no leaking gas or oil and no smoke. Your best linen napkin could be used to dry your

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Through the simple application of heat the use of water may be multiplied many, many times. The purpose of this book is to acquaint you with these many uses and an almost magic way of having an abundance of hot water at all times, exactly where needed.

Besides, this book gives valuable facts regarding various types of cleaners for household and dairy purposes. Remember, the book is yours for the asking. Send for it today.

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Nothing in years has made such a hit with dairy farmers everywhere because they can now protect their milk . . . at all times . . . with less effort . . . and less expense. The secret is low wattage heating, plus automatic control, plus heavy insulation. No expensive installation. Just plug it in. All this saves you dollars! We'll prove it with a Free Demonstration.

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Please send me your Free Book, "THE MAGIC OF HOT WATER," also your Free Demonstration Offer.

Name.....

Town.....

R. F. D. . . . State.....

April Contest, 1942

If you want to enter our letter contest this month, write us a letter about the way you make your electric mixer save you time and strength. It might even be a good plan to list the things you have found you can use it for.

We will pay the writer of the winning letter five dollars. To the writer of any other letters we select to publish we will pay $1.00 each.

The contest lasts through April, so get your letter in before May 1st.

Address your letters to Gail Meredith, 700 S. Mills St., Madison, Wis.

---

most used skillet with no detriment to the napkin. In four years our kitchen walls have needed only wiping down with a dry cloth. How different from the suds scrubbing formerly required after an oil stove flame ran too high awhile. I consider this cleanliness the first factor in the economy of operating an electric range. The next is—more cooking with less fuel. As soon as the food in the container boils, turn to low or in case of the well cooker and simmer burner it will cook and steam, using no more current than a low watt bulb. Several foods may cook in the well or in the oven at the same time, thus you get the utmost from your reduced current. At the first perk of the percolator or the first bubble of a boil in the sauce or gravy the current may be shut off and the hot burner finishes the cooking. No other stove I know of will do this or can you put a kettle of water on a gas or oil stove or in the oven after removing food and turning off and have enough stored up heat to warm it.

Another difference is the safety of the electric range. No matches, no escaping gas or oil if a burner isn't completely turned off, no open flame to contact a blowing curtain, no sparks or coals to fall out when you remove ashes, no chimney to burn out and endanger your roof or house by overheated walls. You never can safely leave home with a flame stove going, but your electric oven may be filled with foods for Sunday dinner or evening meal while you safely attend church or club.

Thus the electric stove is different because it has the easiest operation, because its heat is so perfectly measured and controlled that perfect results are certain. It is the cleanest operating stove made. It is most economical and it is safe.

MRS. HOMER H. BRAY,
Monrovia, Indiana.

Liver Fried in Butter

When you give your family liver once a week, it keeps you busy finding new ways to serve it, unless you have fallen upon some way of cooking it that is unfailingly popular. Mrs. Mortenson has. Mrs. W. P. Mortenson. I don't mean that she never serves it any other way, but fried in butter is the way everyone likes it best.

Mrs. Mortenson until a few years ago was head of home economics extension work in the College of Agriculture at the University of Wisconsin. Now she is busy looking after Mr. Mortenson, two small boys and a new home.

She told us about this way of cooking liver at a study group engaged with the problem of cooking for defense.

"I put a tablespoon of vinegar in a coup of boiling water and pour it over the liver," she said. "I let this stand for five minutes. This takes away the strong flavor and makes the liver easy to handle. Then I cut it in slices about as big as my finger with the kitchen shears, roll it in flour and cook it in butter for five minutes. It not only tastes good, but it looks nice this way, too. Like French fries, only darker."

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Today, more than ever before, with farm production reaching new heights due to our War effort, plus a shortage of rural labor, Century RS Motors are doing the hard jobs faster and easier for thousands of progressive farmers. Some have been in service for more than 38 years.
Century Type RS repulsion start, induction, brush lifting motors have exceptionally high starting torque (turning effort) which enables them to start the toughest loads. In addition, they require less starting current and produce least light flicker. In every respect, you'll find them especially well adapted for all farm use.
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The Only COMPLETE Line of HOME WATER SYSTEMS

F-M makes all types—ejector and piston—for shallow and deep wells—in a full range of sizes. Unbiased advice . . . a name that means *dependability*.

FAIRBANKS, MORSE & CO.

Manufacturers of Precision Equipment for 112 Years

4-H Club Contest Rules Today

The pamphlet on objectives, regulations, reports and awards for the Seventh Annual Rural Electrification Contest sponsored by the Westinghouse Co., is now available from your Club agents. This year, when electricity can play an important part in aiding war food production and in replacing labor on farms, the Club Contest should be of even greater interest than usual. Club members can do much to help in the emergency. Many of you are planning to do so. Joining a 4-H Electrical Club will just mean that you will do it more thoroughly and intelligently and with leaders to help you.

Bin-burning of wheat having high moisture content can be retarded by use of ethylene gas in storage bins. The gas caused temperature to remain below 103 degrees for several days, while untreated wheat from same field and stored same time reached 110 degrees and was damaged considerably.

Fast milking + easy cleaning =

less work, more $ with PAGE Portable Milker

Milks 20-25 cows an hour. Safe vacuum control for each cow gets *more milk*. Double or single units. Sanitary *visible* chamber . . . no dirt-catching corners. *Clean in a jiffy*. Gas or electric. Write for *free* colorful catalog.

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AN efficient, economical Thermogray automatically provides an abundant supply of piping hot water to help make your work easier. Equip your home NOW.

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Questions and Answers

Cold Storage

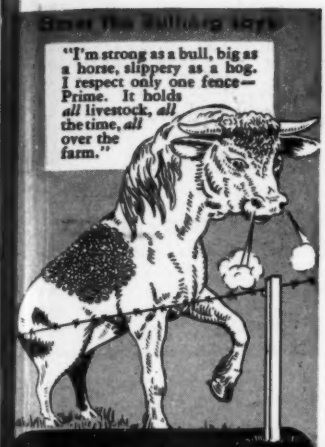
▶**Question:** *In our hatchery building there is a well constructed fireproof bank vault made from brick and concrete or all concrete with good fire-proofing doors. Would it be possible and practical to install some kind of electric refrigeration unit in this vault so that it could be used as a cold storage room? The size is 6 x 6 x 9 ft.* J. S. N., Mo.

▶**Answer:** If the vault in your hatchery building is well drained, it should make a very satisfactory cold storage room. If the room is to be held at not lower than 32° it should be insulated with three or four inches of corkboard which can be cemented to the masonry walls with asphaltic refrigerator cement. For lower temperatures, heavier insulation would be more economical. A good 1 hp compressor unit should be obtainable for $500 or less. Such compressors with suitable unit coolers may be obtained from the Westinghouse Elec. & Mfg. Company, Pittsburgh, Pa. The Commercial Refrigeration Department, General Electric Company, Bloomfield, N. J., or the Frigidaire Company, Dayton, Ohio. All of these companies have engineering departments which will advise you on the amount of insulation to use, the size of compressor necessary and the type and style of coiling or unit cooler desirable.

Water Logged Pump

▶ **Question:** *I have just installed a 300 gal. per hour electric pump in the cellar of my home—the supply of water is taken from a driven well. It seems to work perfectly outside of the fact the pump develops a "water knock" or "hammer." The water chest is not very large and at each stroke of the pump this knock or hammer takes place. Is there some way this knock could be "cushioned"? The motor sits on top of the water chest and the intake and delivery pipes come from each side.* J. C. B., New Jersey.

▶ **Answer:** If your pump is part of a pressure water system, it would sound to me that your tank has become water logged. Drain the tank completely and start over, being sure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the little snifter valve which takes in air with the water, is working.

If you do not use a pressure tank, the pump should be provided with an air cushion in the discharge line between the pump and the check valve in the discharge, if there is one. If your pump has an air cushion and still pounds then there is something wrong with the air pump or valve which supplies air to the chamber. A 3 in. pipe about 18 in. long should provide an adequate cushion.

Homemade Brooders

▶ **Question:** *Can you supply me with instructions for making homemade electric poultry brooders. I have had several requests for such information.* A. L. McM., Wis.; also W. B. S., Miss.

▶ **Answer:** The Trumbull Electric and Manufacturing Company at Plainville, Conn., issue instructions for building a hover to use with their fan type heating unit. The Lyon Rural Electric Company, San Diego, also issue instructions for building hovers for their five or six different types of heating units which they can supply for homemade brooders. Bulletins or mimeographed instructions for making homemade brooders may also be obtained from the Virginia Polytechnic Institute, Blacksburg, Va., The Department of Agricultural Engineering, University Farm, Lincoln, Nebr., The Oregon State Agricultural College, Agricultural Engineering Department, Corvallis, Oregon, and from the Rural Electrification Administration, Washington, D. C.

Size Motors

▶ **Question:** *Could you please tell me what size electric motor I would need to run a 14-inch hammer mill and a medium sized ensilage cutter? Do you know where I could obtain such a motor, either new or used?* R. R., Ohio.

▶ **Answer:** A medium size ensilage cutter can be operated by a 5 hp electric motor for cutting corn providing your knives are kept sharp and properly set and the fan blades fit the blower housing closely. You should use a 4 in. or 5 in. belt and keep the belt and machine in good condition. Since one sometimes slips on keeping everything in tip-top shape, I would recommend a 7½ hp motor. If you are going to put in grass silage, you will need at least a 7½ hp motor and a 10 hp would be better.

It is difficult to advise you about the hammer mill without a more complete description of it. If it has

More Capacity • More Pressure Deeper Wells • • • with

NEW F&W MULTI-STAGE EJECTOR PUMP

● IMPROVED performance on lifts 20 to 120 feet are provided by this new F&W centrifugal pump. May be installed directly over well, or in basement, connected by horizontal piping outside. Completely automatic, including exclusive new control valve which requires no manual setting or adjustment.

Other F&W ejector pumps for medium deep and shallow wells, afford complete selection for each individual need. Advanced engineering, simplified design assure quiet, dependable operation. Compact units, deliver more water. Write now for free literature on the complete F&W line—no obligation.

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YEAR-'ROUND RUNNING WATER OUTDOORS with the VOGEL PATENTED FROST-PROOF HYDRANT

One or more VOGEL Hydrants on outdoor water lines will give you water when and where needed every month of the year. VOGEL Frost-Proof Hydrants cannot freeze, no matter how cold the weather. A dependable supply of water for fire protection of outbuildings in winter and summer. Operation is positive and rapid, even at below zero temperatures.

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Today's most popular "high line" range: electric on one side—coal or wood on the other. Provides year 'round kitchen comfort.

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FOR USE WITH ONE, TWO, OR THREE PHASE ELECTRIC MOTORS—PAYS FOR ITSELF THE FIRST SEASON.

Handles your Hay Fork with quick action, under perfect control at all times. Unloads 3 times faster—Saves man and team — capacity 1200 lbs. direct pull. Many styles. Write for folder.

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a 14 in. throat opening I would say that you could not operate it satisfactorily with less than a 15 hp motor.

I regret I cannot tell you where to buy a motor of that size. Your power company may be able to help you in locating a second hand motor. Apply to your County Defense Board for a priority if you want a new one.

Water Power Light Plant

▶**Question:** *I have just bought a place five miles from electric service that has spring water piped to it with a flow of 2400 gallons a day. I think the pressure is around thirty pounds. Is it advisable to try to make our own electricity out of about 2300 gallons a day? If so, where is the nearest and best place for me to get the necessary equipment?* E. G., Idaho.

▶**Answer:** The amount of water you have at 30 lbs. pressure would give you only about 1/10th of a horsepower, or enough to light only one 75 watt lamp. If you had a reservoir in which to store the water so that it could be used for operating the plant say three or four hours per day, you might charge storage batteries to give you light. The installation would probably be more costly however, than a gas engine driven lighting plant.

Wiring a Trailer

▶**Question:** *I am planning on building a twenty-foot house trailer. Could you advise me on where I can purchase blueprints on how to wire this trailer, and the type of wire to use? Can I use the same wiring on six volt current as on 110—in other words reversible? Would it be advisable to use Fluorescent lights?* L. D., Mich.

▶**Answer:** Use regular house wiring plans and wire for wiring your trailer. Non-metallic sheathed cable is somewhat lighter than metal sheathed cable. You can use the same wire for either 6 volt or 115 volt circuits providing you buy wire having insulation designed for 115 volt circuits and figure the size of the copper for the 6 volt circuit. The carrying capacity of the copper wire must be figured for the number of amperes carried. For most lighting and heating applications there will be approximately twenty times as many amperes flowing in the 6 volt circuit as in the 115 volt circuit. This means that the wire for the 6 volt circuit must be much larger than for 115 volts.

Correction—Pump Size

"In your January issue on p. 24 under 'Power for Deep Well Pump,' you stated 130 gallons per minute when you apparently wanted to say 130 gallons per hour."—Henry R. Herr, "The Pump Man," Lancaster, Pa.

You are right, Mr. Herr. Thank you for the correction.

Repair and Maintenance

. . . . . Here from page 11

farm for general repairs on steel and wrought iron machine parts.

"Breaks and loose joints can be welded in a fraction of the time it would take to repair with plates and bolts or rivets. We have welded iron tongues onto all kinds of farm machines, welded loose spokes to iron tires; welded broken tires; even welded splits on shovel blades. All very successfully and durable. Besides being a time-saver, a weld is usually stronger than the original material."

THOMAS SCHREIBER,
Southbury, Conn.

• "This winter I am a member of a

Delmar Berger, Sunset Hill Farm, Porter County, Indiana, at work clipping the dairy cows. "It takes me just about fifteen minutes to clip one cow," he says, "thanks to electricity. By the old hand way I'd never get done. Yesterday I clipped twenty-four cows between chore times." Berger is in charge of the Guesnsey cows, whose milk sells right at the farm at the price of 45 cents a gallon. Customers come clamoring for it because of its high quality. The clippers help much in keeping cows clean.

and rip out materials for feed racks for the fifty head of beef cattle we winter. These cattle had always been fed in the open with much waste of hay, especially in wet weather. These simple, sturdy racks made from rough lumber were installed, and easily save me one ton of alfalfa (worth $25 here) each winter, in addition to several tons of manure."

WALTER CURNUTTE,
Rivesville, W. Va.

• "An electric welder in the shop transformed a steel wheeled manure spreader onto rubber by cutting off the steel tires and welding on rims from an old truck. An old auto chassis was made into a low-down rubber-tire farm wagon, besides welding broken

farm family, and have been greatly interested in the value of electric equipment used every day for all purposes.

"One of great value is the electric welder. During these days when buying of parts for machinery without waiting for priority red tape to take its course, the welder comes into its own. No time wasted. When parts break, into the big work room they go and on goes the juice. Presto! The job is done—ready for present use or for the machinery being put in order for next summer's work. This little tool with its twin, the electric soldering outfit, certainly saves time and many trips off the farm to repair shops.

"If 'Victory Rides on Rubber,' why aren't these trip-saving tools good defense workers?"

MARY B. BAKER,
Care Arthur L. Nelson,
R. 1, Nashotah, Wis.

• "Two years ago I got tired of running to town every time a mower pitman or other small wood part broke on farm machinery, so I rigged up an 8-inch circular rip saw, using a second-hand ¾ hp. electric motor on a homemade movable bench. The total cost for motor and material was $15.

"This saw saved me so much time and real money on small repairs that I began to rip out my own gates, ladders, and wagon and sled tongues. Then I realized it was a simple matter to repair an old shed on the place

things and doing odd jobs for neighbors. At 20° below zero an electric heater in a 2' x 3' stock tank kept water at just the right temperature for steers, milk cows and hogs at very low cost. Electricity pumped the water."

FRANK I. SMUCKER,
R. 1, Tiskilwa, Ill.

EDITOR'S NOTE. Evidently the electric welder is becoming a popular piece of farm equipment. We will have an article next month on the different types and sizes of welders, what can be done with them, and their desirable and undesirable features.

Humming birds consume large quantities of insects in addition to flower nectar.

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WITH NEW GLASS MILK PAILS

Clean-Easy revolutionizes machine milking! New, sanitary glass milk containers give you "sight" milking—you know at a glance what your cows are doing! You get fast, clean, easy milking with less work! Gas or electric power, transparent or rubber teat cups, portable or track models. Write Ben H. Anderson Mfg. Co., Madison, Wis., Dept. 15

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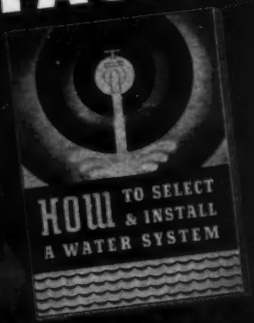

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Equipment for Pullorum Test

The following description was sent in answer to our request to the Moll Breeding Farm, Wauseon, Ohio:

"The equipment for making the whole blood, stained antigen test for Pullorum disease consists of a ¼" plywood box, 14" square and 7" high, insulated inside with masonite. The test glass on top is a piece of ¼" thick glass painted on the under side with a heavy coat of flat white paint. One inch squares were then marked through the paint so that the squares would be visible from the top of the plate. A 50 watt incandecsent lamp is used in the box to make the squares visible and also to warm the test plate. The use of the equipment is as follows: A drop of blood, from the chicken, is obtained by pricking the wing vein with a needle. The drop of blood is picked up with a wire loop and is immediately mixed with a drop of stained antigen which has been placed on the test glass. The blood and antigen are mixed and spread to a diameter of about an inch on the warm glass. If the bird is a carrier, or reactor, the agglutination becomes visible in from 5 seconds to 2 minutes. The appearance of coarse flakes or granules in the mixture indicate a carrier.

"I make this test, on all my birds, about 2 or 3 weeks preceding the hatching season and all reactors are removed from the flock. For the past several years, I have had about one half of one percent reactors. The equipment on the left is a table holding the birds while a test of them is being made.

"I use electricity on my poultry farm for every job that I can adapt electricity to."

H. J. Moll

New Publications

(Publications are obtainable from the addresses given in the descriptions.)

• General Electric Farm and Home Catalog. A 66 p. illustrated catalog of all equipment made by the G.E. Co. for farm and home. Specifications and prices are given. Free from G.E. dealers. If unable to obtail locally, it may be had by writing G.E. Co., Bridgeport, Conn.

Lamps, refrigerators, ranges, water heaters, heating plants, kitchen cabinets, washers, ironers, hotplates, roasters, appliances, radios, clocks, fans, wire, brooders, motors, milk coolers, soil heaters, etc.

• Brooders for Raising Chicks and Poults. General information on types and wiring. Exten. Pub. 257, University of Tennessee, Knoxville, Tenn. Also Leaflet 8 on a Homemade Electric Brooder, 2 pp.

• Homemade Brooders. Descriptions and equipment for several types. Lyon Rural Electric Co., San Diego.

• Electric Brooding Under Winter Conditions. 28 pp. illus. Bul. 416, Agric. Experiment Station, State College, Pa. Experimental brooding with Rocks and Leghorns. 11 sq. in. per chick found best for Rocks.

• The Farm Freezing Plant. 19 pp., illus. Sta. Bul. 399, Oregon State College, Corvallis, Ore. Details of construction of farm freezing cabinets with information on controls, operation and costs.

• Effect of Voltage Variations on the Domestic Consumer. 37 pp., Technical. Bul. Engineering Exp. Sta. Series No. 55, Texas Eng. Exp. Sta., College Station, Texas. Causes of voltage variation and effects on heating and lighting devices and motors.

• Feed Grinding With Small Electric Motors. 44 pp., illus. Extension Bul. 87, Kansas State College, Manhattan, Kas. Coarseness recommendations, characteristics, performance, selection and installation of grinders, costs, automatic operation.

• Electric Feed Grinding on the Farm. 16 pp., illus. Exten. Pub. 253, Univ. of Tennessee, Knoxville, Tenn. Home grinding; hammer mill construction, capacities, automatic installation, motors and controls.

• The All-Electric Greenhouse. 22 pp., illus. Bul. 404, Agric. Experiment Station, Pullman, Wash. Construction, heat losses, costs, equipment available, light, operation.

• Performance of Electric Roasters. Iowa Research Bul. 282, Iowa State College, Ames, Ia.

• Feed Grinding for Iowa Farms. Bul. 329, Iowa State College, Ames, Iowa.

• Sewage Treatment and Disposal for Farm Homes. Circular 309, University of Wisc., Madison, Wis.

• Further Observations on the Response of Various Species of Plants to Length of Day. Technical Bul. 727, USDA, Washington, D. C.

• Bacteriological Studies on the Cleaning of Milking Machines. Ind. Exp. Sta. Bul. 449, Purdue University, LaFayette, Ind.

Air-Raid Blackouts

Last month we published a short article on blackout methods using plywood for filling doors and windows. Sam Hibben, Westinghouse, Director of Applied Lighting, has written suggesting it would probably be just as effective and much more in keeping with war conservation to use old blankets, comforts, rugs or building paper over doors and windows and save the plywood for hen houses, brooders, etc. We agree.

On the West Coast strong Kraft paper is being used effectively. It is opaque, does not tear easily, may be rolled in small space for storage and is relatively inexpensive.

The food the United States has already promised to England would fill a freight train stretching all the way from the Atlantic Ocean to the Pacific.—C. B. Sherman, USDA.

CLASSIFIED ADVERTISING

VIKING ELECTRIC HAMMER MILLS grind automatically. Exclusive non-plugging mechanism feeds mill while you do other work, save you time, and lowers grinding costs. Details sent promptly. Write VIKING MFG. CO., Dept. E, Jackson, Mich.

MODERNIZE ELECTRICALLY! Complete poultry farm supplies; Infra-Red Ray Brooders, Thermostats, 150 items. *Free 52-page Catalog.* Parts and Plans for building your own brooder. Write today! LYON ELECTRIC COMPANY, Dept. EF, Greensboro, N. C., or San Diego, California.

★★★★ CONTESTS ★★★★

We are conducting no contest this month, except the one in the Electrical Housekeeping Department on page 21.

This is a breathing spell.

We have conducted a monthly contest of some sort for many years. There were Cover Title Contests, Cartoon Title Contests, Complete the Rhyme Contests, and How We Did It Contests.

These contests had several purposes. Most people have a little gambling spirit. They enjoy contests, and taking a chance. We wanted you to enjoy yourselves. Then most of us get a "kick" out of a little "windfall" of money. We wanted you to have the "kick." The titles and the rhymes were transitory and of value only in giving a lot of folks an opportunity to sharpen their wits in an effort to excel in a wholesome competition. The prizes were honestly awarded. Some contestants won twice or oftener. We did not welcome professional contestants. The contests were for our farm readers. What we got out of the contests, in addition to making our magazine more interesting, was the answers the questions you were asked to fill in on your contest blank. It was our method of making surveys of the equipment you use, the things you like and the things you do. We received thousands of replies from all over the country which gave a very good cross-section of facts for the United States.

Our recent contests on HOW to increase war production, save labor, repair and maintain equipment and save waste, were conducted for a different purpose. Again, we wanted you to have the stimulation of a competition, and the prizes. But the real purpose was to be helpful to our government and to our readers in this war emergency. We wanted you to tell us exactly how you were using electricity to aid you in this emergency so we could pass the information along to others who could use it. We have received and published some very fine letters. Many other good letters were received, but some of you missed the point of the contests. We did not want lists of equipment you use; we did not want testimonials that electricity was a fine thing for farmers to have. All our readers have it and know it is fine. What we wanted was JUST HOW did you use it, and HOW did it help you—the kind of information that would help you if someone else wrote it.

We still want that kind of experiences—experiences, not testimonials—to pass on to our readers. You do not need to wait for a contest. We pay for such acceptable facts whenever they are sent in.

We will have more contests, too. Watch for them.

★ **HELP YOUR FELLOW FARMER** ★

THE WINNERS

in February Contest for best statements on "How Electricity Helps in Repair and Maintenance." See page 11 in this issue for the full details of how these farm families are saving labor for war production.

FIRST PRIZE—$20 Cash
VERNON D. GELABERT
R. F. D. 1 Louisburg, Kans.

SECOND PRIZE—$5 Cash
JOHN COMPTON
R. F. D. 1, Box 63 Elton, Louisiana

Eight—$3 Prizes

FORREST PUELLMANN
R. 1, Chesterfield, Mo.

JOHN M. MEREDITH
Wallkill, N. Y.

MRS. LOUIS ANDERSEN
R. 2, Sparta, Wis.

WALTER CURNUTTE
Rivesville, W. Va.

FRANK I. SMUCKER
R. F. D. 1, Tiskilwa, Ill.

MRS. MARY B. BAKER
c/o Arthur L. Nelson, R. 1, Nashotah, Wis.

THOMAS SCHREIBER
Southbury, Conn.

DAVID P. TOZER
R. 2, Ellensburg, Wash.

INFORMATION
Service for the Reader

As a reader of ELECTRICITY ON THE FARM you are entitled to our information service free of cost. Here is how it works.

Whenever you are seeking information about any piece of equipment or material that you are planning to buy, first look through the advertisements in this issue. They are your best guide.

Then, if you do not find what you want, just use the blank below to tell us your problem and we will see that you get the information you want. That's all there is to it. Easy, simple, and it costs absolutely nothing.

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Readers' Service Dept., 24 W. 40th St., New York.

Gentlemen: Please have sent to me, without obligation, information about the following:

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NOTE: The more specific you can be in detailing the items you are interested in, the more specific we can be in having the correct information sent you.

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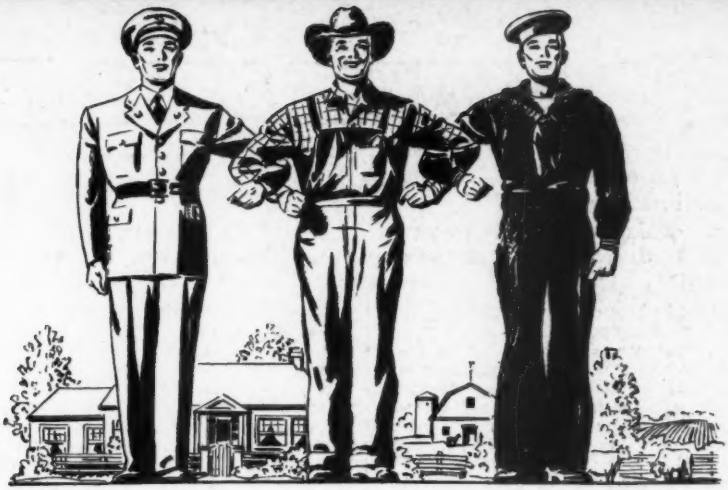

FOOD FOR VICTORY–

with the Help of Electricity

Our men in the service and our families at home are the best fed in the world. That's more important than ever in war-time.

In addition, America is called upon to feed millions in allied countries who cannot raise food for themselves.

We can be thankful for our soils and our climes — and for the electricity that has brought our farms to top efficiency. Electric irrigation and electric soil-heating make our lands more productive. Electric sterilizers and milkers help on our dairy farms. Electric motors conserve man-power. And so, on and on, for hundreds of tasks, electricity is the vital power.

This is interesting too: The cost of electricity per Kw-hr has continued to go down for years. Many other commonly used commodities have gone up. Today, in comparison with other costs, electricity is one of the least expensive things we buy—and the most useful.

ASK YOUR ELECTRIC COMPANY

or your electrical equipment dealer if you need information on equipment. Or, if you prefer, address your inquiries to ELECTRICITY ON THE FARM, 24 West 40th Street, New York, or 6 No. Michigan Avenue, Chicago.

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